

IN THE CLAIMS:

Please cancel Claim 7 without prejudice or disclaimer of the subject matter recited therein. Please amend Claims 1, 5 and 6 and add Claims 10-12 as follows.

1. (Currently Amended) A projection type image display device comprising:

    a plurality of image display elements, each of which modulates light rays in accordance with an image signal;

    a color synthesizing optical element, comprising a dichroic film including a gradient film in which ~~one of~~ its thickness ~~and refractive index~~ varies in a substantially horizontal direction, the color synthesizing optical element synthesizing the light rays modulated by the plurality of image display elements;

    a projection optical system projecting the light rays synthesized by the color synthesizing optical system onto a projection surface; and

    a signal processing circuit which corrects the image signal such that brightness irregularity in a substantially vertical direction of an image projected by the projection optical system is reduced or cancelled.

2. (Previously Presented) The projection type image display device according to Claim 1, further comprising a line memory which stores correction data used in the signal processing circuit as one-dimensional data of the substantially vertical direction.

3. (Previously Presented) The projection type image display device according to Claim 1, further comprising a positive refractive lens disposed between the image display elements and the color synthesizing optical element,

wherein an incident angle onto the dichroic film of the light rays condensed by the positive refractive lens varies in the substantially horizontal direction.

4. (Previously Presented) The projection type image display device according to Claim 1, wherein the dichroic film reflects a first color light and transmits a second color light, the first color light being one of a red color light, a green color light and a blue color light with different wavelength regions, and the second color light being one of the other two lights that are not reflected.

5. (Currently Amended) A projection type image display device comprising:

a plurality of image display elements, each of which modulates light rays in a substantially rectangular region having a long side extending in a first direction and a short side extending in a second direction in accordance with an image signal;

a color synthesizing optical element comprising a dichroic film including a gradient film in which ~~one of~~ its thickness and refractive index varies in the first direction, the color synthesizing optical element synthesizing the light rays modulated by the plurality of image display elements;

a projection optical system projecting the light rays synthesized by the color synthesizing optical element onto a projection surface to display a substantially rectangular

image having a long side extending in the first direction and a short side extending in the second direction; and

a signal processing circuit which corrects the image signal such that brightness irregularity in the second direction of the image is reduced or cancelled.

6. (Currently Amended) A projection type image display device comprising:

a plurality of image display elements, each of which modulates light rays in accordance with an image signal;

a color synthesizing optical element comprising a dichroic film including a gradient film in which ~~one of~~ its thickness and refractive index varies in a predetermined direction, the color synthesizing optical element synthesizing the light rays modulated by the plurality of image display elements;

a projection optical system projecting the light rays synthesized by the color synthesizing optical element onto a projection surface; and

a signal processing circuit which corrects the image signal by one of each pixel and each pixel area such that brightness irregularity in the predetermined direction of an image projected by the projection optical system is reduced or cancelled,

wherein the signal processing circuit corrects the image signal such that the brightness irregularity, which cannot be corrected by the gradient film, is reduced or cancelled.

Claim 7. (Cancelled).

8. (Previously Presented) The projection type image display device according to Claim 6, further comprising a positive refractive lens disposed between the image display elements and the color synthesizing optical element,

wherein an incident angle onto the dichroic film of the light rays condensed by the positive refractive lens varies in the predetermined direction.

9. (Previously Presented) The projection type image display device according to Claim 6, wherein the dichroic film reflects a first color light and transmits a second light, the first color light being one of a red color light, a green color light and a blue color light with different wavelength regions, and the second color light being one of the other two lights that are not reflected.

10. (New) A projection type image display device comprising:  
a plurality of image display elements, each of which modulates light rays in accordance with an image signal;  
a color synthesizing optical element, comprising a dichroic film including a gradient film in which its refractive index varies in a substantially horizontal direction, the color synthesizing optical element synthesizing the light rays modulated by the plurality of image display elements;

a projection optical system projecting the light rays synthesized by the color synthesizing optical system onto a projection surface; and

a signal processing circuit which corrects the image signal such that brightness irregularity in a substantially vertical direction of an image projected by the projection optical system is reduced or cancelled.

11. (New) A projection type image display device comprising:

a plurality of image display elements, each of which modulates light rays in a substantially rectangular region having a long side extending in a first direction and a short side extending in a second direction in accordance with an image signal;

a color synthesizing optical element comprising a dichroic film including a gradient film in which its refractive index varies in the first direction, the color synthesizing optical element synthesizing the light rays modulated by the plurality of image display elements;

a projection optical system projecting the light rays synthesized by the color synthesizing optical element onto a projection surface to display a substantially rectangular image having a long side extending in the first direction and a short side extending in the second direction; and

a signal processing circuit which corrects the image signal such that brightness irregularity in the second direction of the image is reduced or cancelled.

12. (New) A projection type image display device comprising:

a plurality of image display elements, each of which modulates light rays in accordance with an image signal;

a color synthesizing optical element comprising a dichroic film including a gradient film in which its refractive index varies in a predetermined direction, the color synthesizing optical element synthesizing the light rays modulated by the plurality of image display elements;

a projection optical system projecting the light rays synthesized by the color synthesizing optical element onto a projection surface; and

a signal processing circuit which corrects the image signal by one of each pixel and each pixel area such that brightness irregularity in the predetermined direction of an image projected by the projection optical system is reduced or cancelled,

wherein the signal processing circuit corrects the image signal such that the brightness irregularity, which cannot be corrected by the gradient film, is reduced or cancelled.